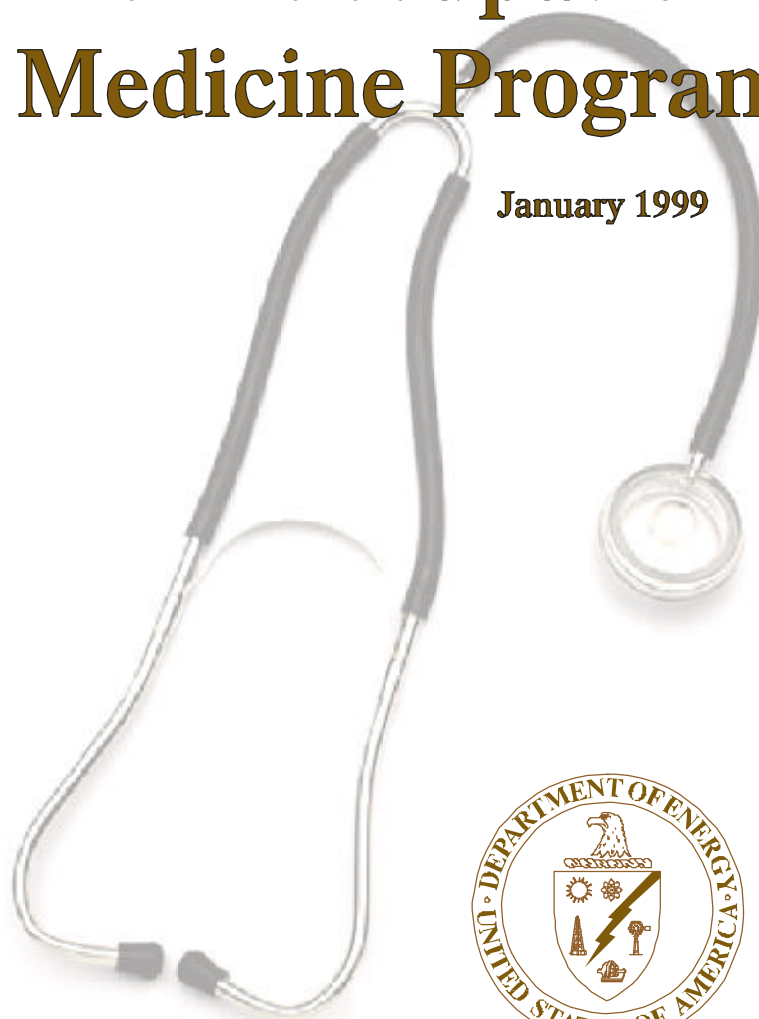


OVERSIGHT

Interim Report on the Office of Oversight Review of the Effectiveness of DOE Occupational Medicine Programs

January 1999



Office of Environment, Safety and Health

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Abbreviations Used in This Report

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| AAAHC | Accreditation Association for Ambulatory Health Care |
| DOE | U.S. Department of Energy |
| EH | DOE Office of Environment, Safety and Health |
| ES&H | Environment, Safety, and Health |
| FY | Fiscal Year |
| ISM | Integrated Safety Management |
| OSHA | U.S. Occupational Safety and Health Administration |

OVERSIGHT

Executive Summary

The Department of Energy (DOE) Office of Oversight is performing a two-phased review of occupational medicine programs across the DOE complex. The first phase of the review, encompassing three sites, was completed in September 1998. This interim report discusses emerging issues that require timely attention.

To conduct this review, the Office of Oversight teamed with the Accreditation Association for Ambulatory Health Care (AAAHC) which has established nationally recognized standards for occupational health care services. Licensed occupational medical physicians from AAAHC evaluated DOE contractor occupational medical programs against AAAHC standards. The oversight team utilized the AAAHC evaluation results along with its own independent review to determine the overall effectiveness of the site medical program.

The interim results indicated that routine clinical services were for the most part implemented effectively and were viewed as a benefit to the organization. Although there are concerns with medical program funding and staffing levels (e.g., key positions are not filled), the medical staff were knowledgeable of occupational medical program services and interested in improving the quality of the medical program. At all three sites reviewed, most of the program elements comply with national standards, indicating that the clinical staff provides quality medical care to employees. At each of these sites, increased senior management awareness was evident, and there is a growing recognition of the need to improve.

Despite the positive attributes, several important DOE policy objectives and requirements are not being met. The most

significant concern is that medical surveillance programs are not ensuring that information about individual work history and exposures is collected, documented, and evaluated. Consequently, DOE sites are not well positioned to respond to requests for information from stakeholders and to provide feedback and analysis to management. Further, DOE does not have readily-accessible data on the work history of individuals and the types of hazards in the facilities, so it is difficult to evaluate workers' exposure histories. Weaknesses were also evident in other aspects of occupational medicine programs (e.g., inadequate interfaces with emergency preparedness, lack of quality management, poorly defined roles and responsibilities, and requirements that are not well defined).

Improvements are needed at all three organizational levels of the DOE hierarchy. DOE Headquarters (program offices and EH) needs to coordinate their efforts to provide strong leadership and act as an advocate for comprehensive occupational medicine programs that meet the long-term interests of DOE. DOE field office and contractor managers need to ensure that policy and requirements are translated into programs that are fully and effectively integrated into site activities. Finally, medical professionals at the working level need to increase the quality of current programs and ensure that the programs address all Departmental objectives and requirements. The Office of Oversight will continue to explore these potential opportunities for improvement in the next phase of reviewing the effectiveness of the Department of Energy's occupational medical program.

The Department of Energy (DOE) Office of Oversight, within the Office of Environment, Safety and Health (EH), is performing an independent oversight review of occupational medicine programs across the DOE complex. The goal of this Oversight review is to identify site-specific and DOE-wide issues that require management attention and to provide a foundation for improving occupational medicine program policy and site performance. The review is being performed in two phases. The first phase of the review, encompassing three sites, was completed in September 1998.



This interim report discusses significant issues identified during the first phase of the review.

Because of the significance of the issues identified in the first phase, the Office of Oversight decided to produce an interim report that discusses the emerging issues and provides a foundation for the second phase of the review. This interim report is not intended to be a comprehensive evaluation of occupational medical programs. Rather, it is intended to alert senior managers to the most significant emerging issues involving medical programs.

In the second phase, additional sites will be reviewed in fiscal year (FY) 1999 and a final report will be prepared in the third quarter of FY 1999. One element of the second phase will be to determine the extent and severity of the issues identified in the first phase. After the two phases of the occupational medicine program review are complete, the Office of Oversight will continue to evaluate occupational medicine programs at individual sites during safety management evaluations and perform onsite reviews of occupational medicine programs as appropriate. Oversight will also follow up on the resolution of issues identified in this review.

Background



Previous Oversight reviews have identified weaknesses in occupational medicine programs.

Recent Office of Oversight assessments have identified weaknesses in some aspects of occupational medicine programs. For example, an independent oversight evaluation of emergency management across the DOE complex highlighted weaknesses in the interface between occupational medicine programs and emergency management programs at several sites. Because of such weaknesses, some sites may not be adequately prepared to provide timely and effective medical treatment to workers who have been injured or exposed to hazardous materials; for example, coordination and communication with offsite medical facilities may not be adequate to respond effectively to site emergencies or mass casualty incidents. Similarly, reviews of occupational medicine programs during Office of Oversight safety management evaluations indicated that some of these programs are not accomplishing several key objectives. Collectively, the recent assessment results indicated a need for a more comprehensive review of occupational medicine programs.

Public and worker health concerns have been widely publicized and prompted several extensive independent health studies across DOE sites. Concerns are being expressed with the availability and quality of DOE worker exposure data, both historically and currently. DOE is supporting multiple health studies and defending itself in litigation in an atmosphere of strained communications, high emotions, and mistrust. Lessons learned from these experiences need to be factored into improving the DOE's health programs. This Office of Oversight evaluation of the effectiveness of the DOE occupational

medicine programs is a critical link in the DOE efforts to address these concerns, improve relationships, improve performance, and minimize the potential for future adverse worker health effects.

Methodology



The Office of Oversight teamed with the Accreditation Association for Ambulatory Health Care (AAAHC), which provided licensed medical physicians.

The Office of Oversight is using a unique approach to performing the reviews of the individual sites. Specifically, the Office of Oversight has teamed with the Accreditation Association for Ambulatory Health Care (AAAHC). The AAAHC is a professional organization that performs surveys of medical clinics and accredits programs that have demonstrated compliance with an established set of nationally-recognized standards. The AAAHC provided licensed medical physicians who specialize in occupational medicine to participate on the Office of Oversight review team.

As part of the teaming arrangement:

- The AAAHC performed a survey according to their established procedures and standards. As part of this effort, the site personnel completed a self-assessment (called a pre-review survey in the AAAHC process) against AAAHC standards. The site can use the AAAHC evaluation to judge their own status against national standards. The AAAHC also suggested improvements and provided an initial assessment of the efforts that would be needed if the site decides to seek accreditation.

- The positive attributes, weaknesses, and insights from the AAAHC survey were factored into the Oversight evaluation of occupational medicine program performance. The insights from professional AAAHC surveyors were considered in combination with other information gathered by the Oversight team during interviews and tours.

This approach to independent oversight was an effective and efficient method for obtaining the independent perspectives of qualified and experienced medical professionals based on a review of nationally-recognized standards. The evaluation against national standards was considered as one factor in the independent oversight evaluation of the effectiveness of DOE policy and implementation by field office and contractor line management in establishing and implementing an effective occupational medical program, as defined by applicable DOE orders and policies (see Figure 1).



Occupational medicine programs have several interrelated functions.

The Office of Oversight review team focused on the sites' ability to accomplish each of the functions of a comprehensive occupational medicine program. As shown in Figure 2, a comprehensive occupational medicine program has a number of interrelated functions ranging from routine clinical services (e.g., treating minor injuries) to long-term medical surveillance (e.g., monitoring the health of the workforce over time to determine whether exposures are affecting workers). Further, a comprehensive occupational medicine program must interface effectively with other site organizations, such as line management, industrial safety and hygiene, and emergency management, to achieve all DOE objectives.

DOE Policies and National Standards Applicable to Occupational Medicine Programs

DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, delineates the basic program elements necessary for an occupational medical program. It requires that contractors use a graded approach to establish medical program requirements and utilizes supplemental orders and program guidance documents to establish specific medical program expectations and requirements.

DOE Order 151.1, Comprehensive Emergency Management Systems, establishes policy and describes roles and responsibilities for the DOE emergency management system. The emergency management system has prescribed specific interfaces for the occupational medicine program in the areas of emergency planning, emergency preparedness, and emergency response.

DOE Policy 450.4, Safety Management System, defines a comprehensive and coordinated program of environment, safety, and health (ES&H) expectations and activities that is commonly referred to as integrated safety management (ISM). All site ES&H programs, including occupational medical programs, are to be implemented within the ISM framework. Among other things, ISM requires clear roles and responsibilities, identification of requirements, and performance assessment and feedback to ensure quality management and improvement.

DOE Policy 450.1, Environment, Safety and Health Policy for the DOE Complex, provides the principles and framework for each member of the DOE community to ensure excellence in protection of workers, the public, and the environment.

DOE Policy 450.3, Authorizing Use of the Necessary and Sufficient Process for Standards-Based Environment, Safety and Health Management, establishes the “necessary and sufficient” process as one means of addressing ES&H standards.

Section 3162 of the FY 1993 Defense Authorization Act {42 US Sec.7274i}, Program to Monitor Department of Energy Workers Exposed to Hazardous and Radioactive Substances, directs the Secretary of Energy to develop medical evaluation programs for current and former DOE workers who are at significant risk of work-related illness as a result of exposures while working at DOE facilities.

AAAH Standards: In performing reviews of occupational medicine programs across the country, the AAAHC uses a set of nationally-recognized standards. The AAAHC standards are relevant to all DOE sites and identify core program elements that are essential for high quality patient care. In addition to the core standards, AAAHC reviews site occupational health services and identifies applicable adjunct standards. The DOE Headquarters Office of Occupational Medicine supports the accreditation process and is currently modifying DOE Order 440.1A to be more consistent with accreditation provisions and guidelines. Although not currently a specific requirement of DOE policy, the AAAHC standards generally reflect the philosophy outlined in DOE safety management policies. The AAAHC standards emphasize the quality improvement process, which is a central theme of ISM.

Figure 1. Applicable Policies and Standards

Occupational Medicine Program Functions

Consistent with DOE policy and requirements, a comprehensive occupational medicine program performs several interrelated functions:

- **Clinical services.** Onsite medical staff perform various routine medical procedures (e.g., physical examinations, laboratory testing) to identify and treat occupational illness or injuries, facilitate recovery and safe return to work, and refer patients for further treatment as indicated. In this regard, the occupational medicine program serves as an onsite clinic and provides timely and convenient access to medical services. In some cases, access to subsidized health services is part of employee benefits packages.
- **Assessing worker fitness for duty.** Health evaluations are conducted to provide initial and continuing assessment of employee fitness for duty through the following examination categories; pre-placement, periodic (qualification certification) examinations, return to work, job transfer, and termination.
- **Medical surveillance.** DOE sites often involve hazardous materials, and the work at DOE sites can involve potentially hazardous conditions. As a result, DOE sites need to identify job categories that could involve specific radiological, chemical, biological, or physical hazards and establish a process for routine health examinations and monitoring of employees in such categories. Such a process needs to be coordinated so that the information collected is useful and available to examiners and analyzed to ensure that safety and health management has the necessary information to identify trends, protect employees, respond to requests for information from individuals and stakeholders, and ensure that accurate information is available to ensure the adequacy of the health protection program.
- **Support for site efforts to monitor and control exposure to radiation and hazardous materials.** DOE sites must monitor and control radiation exposure in accordance with a radiation protection plan. Such efforts often require various methods for measuring radiation exposure (e.g., whole body counts) that may be performed on a routine basis or to determine the extent of exposure or appropriate medical treatment after an incident. Similarly, DOE sites must comply with various Federal and state regulations related to worker safety and hazardous materials (e.g., Occupational Safety and Health Administration requirements for protection against exposure to hazardous substances). The occupational medicine program must coordinate with other site organizations to ensure that site hazards are identified and that appropriate measures to mitigate hazards are in place.
- **Support for emergency management preparedness and response.** DOE sites must be prepared to handle emergencies and unplanned releases of radioactive or hazardous materials. Occupational medicine programs need to be able to provide support during an emergency situation; for example, by providing treatment to injured workers, coordinating support with local hospitals, ensuring that information about hazardous materials is readily available to medical personnel who treat exposure victims, and providing recommendations for protecting the public.
- **Information management.** To perform the functions noted above, DOE sites must maintain health information about hazardous materials and employees potentially exposed to those hazards. Many of the materials used at DOE facilities and laboratories, such as plutonium and beryllium, pose significant health risks and are not commonly encountered in general industry. Thus, they may be unfamiliar to community health care providers in the event of an accidental exposure. Occupational medicine program personnel must also be involved in keeping track of the types of hazardous materials at the site and their health effects, documenting worker exposures, recommending treatments, and informing management about the effectiveness of safety and health programs.

Figure 2. Functions of a Comprehensive Occupational Medicine Program

Positive Attributes

In general, clinical services were implemented effectively and were viewed as a benefit to the organization (e.g., immediate urgent care services) and employees (e.g., providing easy access to medical care). Although there are significant concerns about resource levels (e.g., key positions are not filled), the medical program staff were knowledgeable of occupational medical program services and interested in improving the quality of the medical program.



The three sites reviewed comply with most national standards for clinical services.

The review by certified AAAHC personnel indicates that all three of the sites reviewed have achieved “substantial compliance” (which is the highest of three possible ratings that can be assigned to a standard on an AAAHC survey) for a majority of the elements reviewed. DOE sites performed well on the standards that are most directly related to clinical services, such as: quality of patient care; clinical records; facilities and equipment; observance of patient rights and privileges; administrative procedures; policies, procedures, and protocols; pharmacy/medication controls; immediate/urgent care services; laboratory services; and diagnostic imaging. The AAAHC complimented the Oak Ridge National Laboratory site on its recent improvements (e.g., review of laboratory results, notification of employees/patients, the redesign of the computerized medical data base, and state-of-the-art facilities for storing medical records). The good ratings in these areas indicate that the clinical staff provides quality medical care to employees and that routine diagnostic services are comprehensive. However, as discussed under Generic Issue #3, the AAAHC judged DOE sites to be non-compliant with several other national standards.

The DOE sites that were reviewed have many elements of a comprehensive occupational medical program in place. Should they choose to do so, the sites are well-positioned to achieve AAAHC certification within two years if certain performance elements are improved and institutionalized (e.g., implementation of a quality management program).



Increased senior management involvement in occupational medicine programs was evident.

Recent indications of increased DOE and senior contractor management attention, in reaction to medical professional and worker concerns, are encouraging. At the sites that were reviewed, increased senior management involvement was evident, and there is a growing recognition of the need to improve. To this end, DOE field office and contractor management have performed several activities (e.g., recent evaluation of needs, efforts to supplement staff, and increased assessments) to resolve identified issues and promote improvement, including pursuing accreditation. The first three sites reviewed have also identified site-specific corrective actions for some of the identified weaknesses. In addition, DOE Headquarters (primarily EH, which has responsibility for occupational medicine program policy) is working to gain program office support to strengthen the section of the DOE order that deals with occupational medicine programs (i.e., Chapter 19 of DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees).

Programmatic Weaknesses and Issues Requiring Timely Attention

Despite the positive attributes, DOE occupational medicine programs are not sufficiently comprehensive and are not achieving all applicable DOE objectives. At all three sites,

the occupational medicine programs were effectively implementing most of the routine clinical service function, but other core functions, such as medical surveillance, were not receiving sufficient attention.



DOE programs are not meeting some of the policy objectives, most notably in medical surveillance programs.

As a result, several important DOE policy objectives and requirements are not being met. The most significant concern is that medical surveillance programs are not ensuring that information about individual work history and exposures is collected, documented, and evaluated. Consequently, DOE sites are not well positioned to respond to requests for information from stakeholders and to provide feedback and analysis to management. Further, DOE does not have readily-accessible data on the work history of individuals and the types of hazards in the facilities, so it is difficult to evaluate workers' exposure histories. Weaknesses were also evident in other aspects of occupational medicine programs (e.g., inadequate interfaces with emergency preparedness, lack of quality management, poorly defined roles and responsibilities, and requirements that are not well defined).



Three generic weaknesses are contributing to weaknesses in implementation.

Although some individual sites are taking action to improve occupational medicine policy and programs, these ongoing efforts are not sufficient to address the fundamental issues that prevent occupational medicine programs from fully achieving their objectives. The interim results of this review highlight three generic issues that contribute to the observed weaknesses in the occupational medicine programs. These three issues correspond to three levels of the DOE hierarchy: DOE Headquarters, which includes both line and non-line management functions, should provide leadership, direction, and policy; DOE and contractor line management at the site, which should ensure that programs are comprehensive, adequately supported, and effective; and occupational medicine program medical professionals, who should implement a program that meets DOE requirements and applicable standards.

Generic Issue #1: There is a disconnect between occupational medicine program expectations and implementation with regard to Departmental policy and requirements.

DOE policies and requirements have been established to communicate expectations from DOE Headquarters to DOE field office and contractor management at DOE sites and subsequently through the contractor organizations to the medical program director for implementation. However, occupational medicine program directors and workers in the field have indicated their confusion about policy and guidance expectations and their perception that the occupational medicine program is not a high priority for Headquarters policy or line management. Line management is the chain of command from the Office of the Secretary of Energy, through the program cognizant secretarial offices, to operations and field offices, to the site-specific operating contractors and subcontractors. EH is the Headquarters element responsible for formulating occupational medical program policy, requirements, and guidance.



Increased DOE Headquarters advocacy is important to explain policy objectives and improve occupational medicine program performance.

The lack of effective DOE Headquarters advocacy for occupational medicine programs has contributed to confusion at the working level. In recent years, DOE Headquarters has not been active in communicating and reinforcing DOE requirements and the expectation that occupational medicine is part of integrated safety management. Headquarters has primarily focused on supporting health studies associated with former workers, but has not been as proactive or aggressive in promoting occupational medicine programs, providing technical assistance, or conducting comprehensive program assessments. Headquarters advocacy is particularly important in the occupational medicine program because most of the DOE expertise in medical programs resides in EH. Unlike other technical disciplines, such as industrial safety and radiological protection, the DOE program and field offices generally do not have personnel (physicians) with expertise in occupational medicine. Thus, the line programs rely on EH for leadership and direction more than in other safety programs.

The DOE program offices evaluated (e.g., the Offices of Environmental Management, Defense Programs, and Energy Research) have little involvement with occupational medicine programs. This lack of direct line management ownership has contributed to a situation where occupational medicine programs requirements have been removed from contracts and have not been emphasized in the DOE integrated safety management (ISM) effort at Headquarters or in the field to the same extent as in other areas, such as occupational safety and nuclear safety.

As implemented in the field, recent DOE initiatives have not supported an appreciation of the necessary elements of a comprehensive occupational medicine program. The DOE ISM initiative requires increased integration of environment, safety, and health (ES&H) programs into site operations. The initial ISM efforts that have been evaluated have not included the need for interfaces with occupational medicine programs. Other DOE initiatives, most notably Work Smart standards, are resulting in DOE sites eliminating blocks of DOE requirements and relying solely on adopting Occupational Safety and Health Administration (OSHA) requirements. DOE sites have generally been effective in identifying the applicable OSHA requirements, but these requirements do not constitute a comprehensive and effective management system for implementing an occupational medicine program that meets DOE expectations and requirements. As implemented, the application of Work Smart standards has not addressed all DOE requirements or recognized the importance of effective medical surveillance programs. Medical professionals have not routinely been included in the work groups that identify, negotiate, and approve the requirements to be included in the contract between DOE and site contractors.



DOE has not developed a strategic approach to establishing requirements that ensure that DOE's interests are protected.

Perhaps the most significant impact of the ineffective communications and lack of advocacy is that DOE is not developing a strategic approach to establishing and implementing requirements to ensure that DOE's long-term interests are protected. Most notably, DOE is not systematically applying lessons learned to drive quality improvement in medical surveillance (data collection and records) in light of public and worker health concerns, former worker exposure litigation, and health studies feedback. Historical inadequacies in monitoring exposure records limit DOE's ability to consistently demonstrate that it

has been active in providing medical care and controlling and evaluating health impacts (if any) associated with work in hazardous material facilities. These weaknesses have contributed to instances of worker litigation, breakdowns in communications between DOE and workers, and perceptions by some workers and members of the public that DOE is not responsive to their concerns.

An effective strategic approach to medical surveillance could help alleviate such problems in the future. Effective occupational medicine programs and good records can be an important tool in protecting workers, improving public perceptions, and increasing worker confidence. With good medical surveillance and records, DOE or independent groups can better perform definitive studies to determine the relationships between exposures and health concerns. Further, DOE will be better positioned to respond to claims if it can demonstrate that its medical surveillance program meets DOE and national standards of quality.



Occupational medicine needs to be treated as an integral part of site operations rather than an isolated program.

To establish and implement an effective strategic approach, DOE Headquarters needs to be a strong advocate for a cultural change in the perception of occupational medicine programs. Rather than an isolated, stand-alone, and specialized program that provides clinical services, the occupational medicine program needs to be viewed as an integral part of the site operations that are designed to verify that other ES&H programs, such as lead abatement, have been effective. DOE Headquarters and DOE site management have not yet adequately recognized and communicated the benefits of an effective occupational medicine program as a proactive measure to verify that DOE protects its workers.

By developing and implementing a strategic approach, DOE can ensure that both worker health and the long-term interests of DOE are protected. Such a long-term approach is particularly important in light of the increasingly short-term, project-oriented focus of DOE contractors that results from recent trends at DOE sites (e.g., decontamination and decommissioning contracts, privatization, management and integrating contracts, more frequent replacement of contractors, substantial transient employee turnover). With a short-term, project-oriented focus, many DOE contractors do not have strong incentives to establish long-term monitoring programs, and DOE must be proactive in ensuring that long-term programs are established and effective.



Record storage practices need to consider the need for long-term access of researchers and workers after site closure.

A specific long-term issue requiring Headquarters attention is records management. Existing DOE records disposition and storage practices may not be sufficient to ensure long-term preservation of and ready access to worker health/medical records. For example, historical employee medical records in support of the Defense Authorization Act of 1993, the DOE former-worker program, and epidemiological studies may be lost due to deterioration and inadequate storage practices (e.g., x-ray films are deteriorating and may be unusable). Although DOE has extensive requirements for records storage, DOE needs to develop a strategic approach for ensuring that employee medical and exposure records will be available and accessible for long-term needs. Particular attention needs to be devoted to issues involving workers at sites that will be permanently closed and subcontractors that have a short-term focus and substantial employee turnover.

In short, DOE Headquarters (line and non-line programs) is not ensuring that occupational medical programs are meeting requirements and expectations. The Department's long-term interests are not effectively communicated, not established in a strategic approach to program design, and not supported through effective Headquarters advocacy for program improvement.

Generic Issue #2: DOE field office and site contractor management have not ensured that occupational medicine programs are effectively integrated into site operations and effectively interface with related ES&H programs.

One of the main reasons that occupational medicine programs are not comprehensive is that medical personnel have little formal coordination with other site organizations. Historically, occupational medicine programs at DOE sites have operated as independent entities that do not routinely interface with other relevant site organizations, such as line management and ES&H organizations. DOE field office managers and contractor managers tend to view occupational medicine as a self-contained specialty program.



Occupational medicine programs could benefit from greater involvement in strategic planning and inclusion in integrated safety management.

At the sites that were reviewed, occupational medicine programs are not addressing the teaming requirements delineated in DOE Order 440.1A, and site ISM efforts are not adequately addressing occupational medicine programs. These shortcomings indicate that occupational medicine is not a "visible" program to management and is not treated as an integral part of a site ES&H program. DOE sites could benefit by greater involvement of occupational medicine personnel in strategic planning and operations and inclusion of occupational medicine programs in ISM. For example, the ISM program provides a framework for defining roles, responsibilities, and interfaces.

The impact of the isolation of the occupational medicine program is most apparent in site medical surveillance programs. Medical surveillance needs to focus on timely detection of symptoms related to workplace hazards and on ensuring that useful medical records are maintained for each individual. Medical surveillance programs can be effective only with the support of senior managers and the coordinated efforts of the medical program and other site organizations, such as industrial safety and hygiene, radiation protection, and facility-operations oriented managers and supervisors.



Shortcomings in medical surveillance stem from a lack of coordination and communication.

The preliminary indications are that the problems with medical surveillance stem not from a lack of data but rather from inadequate coordination and communication of information. There is extensive data on worker radiation exposure, records of work on tasks that involve entry to areas where toxic chemicals are used and stored, and records of personal protective equipment training and use. However, such information is not communicated in a manner that is readily usable by a physician. Sites have not developed effective methods for categorizing employees into "essential job analysis/functions" as required by DOE orders. Such categories are needed to communicate the potential health hazards associated with various types of work and then to target medical surveillance and examinations.

Even when such information is available, it is generally not effectively communicated from line management and ES&H programs to the occupational medical program for consideration in medical surveillance efforts. In those cases where information is provided to the occupational medicine program, the physicians do not use it or document pertinent information in patient records. Further, results of occupational medicine evaluations are not communicated to line management, and the responsibilities for medical surveillance are not specifically identified for key positions, including line program department safety officers and the supporting health division staff. The interfaces between the occupational medicine program and line management are not defined in the areas of hazard recognition, exposure assessment, and medical surveillance reviews of ongoing or planned projects.

The first phase of this Office of Oversight review identified several indications that occupational medicine programs are not effectively integrated and supported by DOE and contractor management:

- **DOE and contractor management have not consistently taken a systematic approach to ensuring that resources are allocated to meet DOE requirements and expectations.** Staffing and resource limitations at each site have hindered timely resolution of issues and implementation of program enhancements. At one site, the occupational medicine program staff had been reduced to less than half of historical levels, and the site had been without a medical director for an extended period. The medical directors have often been used as staff physicians, rather than as program managers, because of staffing limitations. Some functions, such as implementing a quality management program and interfacing with emergency management, are not being carried out because the current staff do not have time. It is recognized that many DOE sites are undergoing reduction in funding and must make difficult decisions about priorities and funding levels. However, disproportionate staff reductions and management decisions not to fill positions do not appear to be based on an assessment of the baseline requirements.
- **DOE sites have had difficulty in attracting and retaining medical directors and staff physicians with the appropriate qualifications and ensuring that medical directors have the authority to implement effective programs.** A particular concern is attracting medical directors with the

experience and ability to provide leadership and direction to occupational medicine program staff and to effectively interface with line and ES&H managers on complex issues, such as establishing an effective medical surveillance program. Sites have reported that the DOE salary caps limit the ability to attract needed management professionals. The medical directors are not always given the necessary management support and authority to meet all expectations of DOE policy, or the medical director is in an organizational position where it is difficult to communicate with senior managers and influence program improvement. In some case, sites have not made arrangements to obtain specialized medical support needed to resolve complex medical surveillance issues.

- **Performance assessments often do not include the occupational medicine program or do not provide adequate information to management to foster improvements.** Operations offices and contractors do not always include occupational medicine programs in their performance assessment and feedback programs. When performed, assessments tend to be fragmented compliance audits, which have always addressed core programmatic elements or the interfaces between the occupational medicine program and other site activities.
- **Requirements for occupational medicine programs are not well defined in contracts and site-specific requirements.** Two of the three sites reviewed have used the Work Smart standards process to identify site-specific requirements. In both cases, the process did not effectively capture applicable DOE requirements (e.g., roles, responsibilities, and authorities of the medical director; roles and responsibilities of health team members; and quality management). In addition, changes in the DOE occupational medicine program requirements would not necessarily be incorporated into contracts because the applicable requirements are not included in the contracts.
- **Occupational medicine program personnel have not been effectively and formally integrated into planning and control systems.** Medical directors have typically not been involved in strategic planning and are not generally involved in the review and approval of project plans or ES&H policies and procedures. In some cases, medical personnel are invited to participate in reviews of major projects.

However, sites have not institutionalized methods to ensure that line managers responsible for projects have considered the possible health effects of those projects and communicated those concerns to the medical director for his/her consideration. Medical directors do not perform long-range planning to ensure that the occupational medicine program can effectively and efficiently adapt to changing needs (e.g., as a site transitions to environmental management activities) and have not evaluated the benefits and impacts of alternatives, such as outsourcing.

- Occupational medicine programs have not been used effectively to communicate with workers and the public. Occupational medicine programs can be an effective tool for increasing worker and public confidence in the safety of DOE operations. However, this role has not been emphasized. DOE sites have not effectively communicated that occupational medicine programs are designed to monitor employee health and to ensure that hazardous materials at DOE sites do not affect the workforce. In some cases, workers and public advocacy groups have expressed concern that medical departments do not look at employee concerns, and within DOE the fear of litigation may contribute to a reluctance to provide information to citizen groups and workers. There have been well-publicized instances where workers have voiced concerns that the basic tenets of the patient's bill of rights are not being ensured and have expressed fear of reprisal if they report occupational illnesses and injuries. In such a contentious climate, properly implemented occupational medicine programs can provide a mechanism for disseminating accurate information about employee health and communicating with the workers and the public.

In summary, to be effective, occupational medicine programs need to be an integral part of site operations and ISM efforts. For this to occur, DOE and contractor senior managers will need to change the historical role of the occupational medicine program from that of an isolated specialty program focused on individual worker general annual physicals to that of a more balanced program with multiple objectives and extensive interfaces with line management and ES&H programs. Properly used, ISM provides the framework for the needed integration.

Generic Issue #3: Contractor occupational medical programs have not implemented effective quality management systems to identify and correct program deficiencies.

The reviews at the working level of the medical programs at all three sites, in combination with previous safety management evaluations, indicated weaknesses in implementing quality management programs. As a result, weaknesses in implementing occupational medicine program functions were not being identified and corrected.



Quality management programs are not providing adequate feedback to ensure effective implementation of occupational medicine programs.

Quality management programs are not providing adequate feedback about medical program goals or implementation. At all three sites, effective feedback and improvement programs have not been established for occupational medical programs. The AAAHC noted that the occupational medicine programs did not meet national standards related to quality management at any of the sites reviewed. Similarly, the sites have not implemented quality management/assurance programs that meet DOE requirements. In general, occupational medicine programs do not include peer review of clinical practice and medical provider evaluations. In addition, professional employee credential files were not complete or reviewed annually. At some sites, quality improvement activities have not been a priority because of medical program staff shortages.

Based on information developed in the first phase of the Oversight review, the weaknesses in implementing core program elements at the working level of the occupational medicine programs are summarized below:

- **DOE sites are not placing sufficient emphasis on medical surveillance.** As implemented at DOE sites, occupational medicine programs often perform routine annual physicals for employees; these physicals can be part of the employee benefit package and can be a valuable tool for meeting corporate goals, such as reduced absenteeism, early detection of illness, and advice for preventing injuries. However, as time has progressed, these clinical services have become the primary focus of

occupational medicine programs. DOE sites appear to have lost their focus on effective medical surveillance that comprehensively and effectively addresses the unique aspects of work at DOE facilities that have large quantities of radioactive and hazardous materials.

- **Clinical records do not reflect consistent or adequate attention to worker exposure history or potential exposures associated with current duties.** At the sites reviewed, the patient records did not consistently provide information about work history and conditions, work demands, preventive counseling, industrial hygiene exposure data, and personal protective equipment. This type of information should be a primary focus of any occupational health-related record. In general, sites' medical surveillance programs do not systematically collect sufficient information about employee exposures, work demands, and personal protective equipment to determine whether workers have been exposed to hazards. With current practices, it would be difficult to correlate an individual's work history (e.g., presence of hazardous materials) with identified medical conditions. Such correlation is needed to determine whether work conditions may have contributed to an illness and to focus the physician's attention on potential symptoms. In addition, occupational medicine programs need to provide site management with enough information to determine and defend the adequacy of worker protection programs.
- **Medical programs are not adequately integrated into key elements of emergency preparedness as required by DOE orders (e.g., DOE Order 151.1, Comprehensive Emergency**

Management System). Consequently, DOE sites may not be adequately prepared to respond to site emergencies or mass causality incidents. Without adequate coordination and communication with local medical facilities (e.g., local hospitals and ambulance services), DOE sites cannot assure that the necessary information (e.g., types of toxic materials and their potential health effects), resources, and supplies will be available to respond to site emergencies.

- **Roles, responsibilities, and authorities for occupational medicine program personnel have not been well defined and clearly communicated.** Site documentation does not consistently identify the roles and responsibilities necessary to maintain an occupational health program. Site procedures generally do not address medical program responsibilities for community health or former-worker issues, including epidemiological research and formal communication of health evaluation results to both DOE and contractor management. At some sites, the medical director position is a part-time subcontracted position, or has not had the span of authority to implement a comprehensive program. In such instances, the medical director has not had the necessary authority and access to senior management to ensure that the program is effectively implemented and that issues are resolved.

Overall, the interim results indicate that occupational medicine programs require substantial improvement in several areas to meet DOE requirements and national standards. Particular attention is needed to improve clinical records and establish quality management programs that routinely ensure that the program is functioning as intended and is effectively meeting all applicable requirements.

Consistent with the overall goal of this independent oversight review—to provide DOE managers with the information needed to make improvements—several potential opportunities for improving current programs should be considered by DOE Headquarters, DOE field office and contractor management, and DOE medical directors. The Office of Oversight plans to further examine efforts to implement these opportunities for improvement, or similar site-specific measures, in the second phase of this review. Upon completion of the second phase and issuance of the final report, the Office of Oversight will be requiring a comprehensive Departmental corrective action plan. Follow-up site-specific reviews will be scheduled in 1999 to assess efforts to implement the corrective actions.



Improvements are needed at three levels: DOE Headquarters, field management, and the working level.

The interim results, based on the emerging issues generic to the three sites evaluated to date, indicate that improvements are needed at all three levels of the DOE hierarchy. DOE Headquarters (EH and cognizant secretarial offices) needs to coordinate to provide a strategic approach and strong leadership, and to act as an advocate for effective occupational medicine programs. DOE field office and contractor managers need to ensure that policy and requirements are translated into programs that are fully and effectively integrated into site activities. Finally, medical professionals at the working level need to increase the quality of current programs and ensure that the programs effectively address all objectives.

DOE Headquarters

Advocacy. DOE Headquarters needs to reinforce efforts to ensure that occupational medicine program issues receive attention and

management support. Efforts are needed to change the perception of occupational medicine as an isolated program to its being an integral part of ES&H and site operations, including an appropriate level of emphasis on the DOE ISM initiative.

DOE Headquarters can also promote development of methods and processes to make information available to DOE sites. For example, DOE Headquarters could evaluate the potential for using “tele-medicine” to provide clinics with the specialists and medical domain knowledge they need. DOE Headquarters could also identify methods for sites to obtain specialized medical support (e.g., toxicology, neurology, and hematology). Such efforts could help individual sites, which generally do not have specialists on staff, to better design and implement their programs.

DOE Headquarters could also provide technical assistance by working with DOE sites to develop tools and methods to ensure that occupational medicine program personnel receive useful information about site hazards. For example, the occupational medicine program and line management need to coordinate to ensure that site medical personnel have access to information such as material safety data sheets and the types and locations of hazardous materials that workers could encounter at the site. Various methods, such as hazard and risk mapping (e.g., processes by which the location and relative amounts of potentially hazardous materials are displayed on a facility-specific basis), can be useful tools for presenting information in a manner that is useful to site medical professionals.

The Department (including the Office of Oversight) needs to increase the frequency and scope of the evaluations of occupational medical programs in support of Headquarters advocacy efforts. Occupational medicine programs need to be evaluated more comprehensively than site-specific safety management evaluations have in the past.

Ownership. Line program senior management should consider demonstrating visible support for improvements in occupational medicine programs (e.g., a letter to all field elements) and taking steps to ensure that DOE and contractor managers are aware of and understand the role of the occupational medicine program and DOE expectations for performance. Line management needs to ensure that expectations are understood and communicated down the management chain, and that individuals at each level of the organizations are empowered and accountable for effective performance.

Medical Records Disposition. The Offices of Records Research Data and Access (EH-63) and the Office of Records Management (MA-7), within the DOE Office of Management and Administration (formerly the Office of Human Resources and Administration), should evaluate the adequacy of existing systems for medical and exposure records storage, security, and access. Researchers' and stakeholders' interest in these records may influence decisions on where and how the records should be stored. Particular attention is needed to determine how to store records for sites that are undergoing the final stages of environmental restoration, such as the Fernald Environmental Management Project. The planned demolition of buildings that currently house records will necessitate some near-term coordination and planning for inventory, packaging, movement, and security of medical records. Long-term storage issues, such as preservation of x-ray film and where to store records when the site is turned over to public use, also need to be addressed.

Policy. EH should ensure that the proposed changes to DOE Order 440.1A adequately address issues raised in this report and in previous Office of Oversight studies (e.g., the emergency management special study), and that they are disseminated and coordinated in a timely manner. Particular attention is needed to ensure that expectations for medical surveillance programs are clearly defined, communicated, and understood.

DOE should consider developing a policy regarding independent accreditation of occupational medicine programs by organizations such as AAAHC. DOE should examine such issues as salary caps and outsourcing to determine whether additional actions are needed to empower the field to resolve problems.

DOE Field Office and Contractor Management

Management Direction and Support. DOE field offices and contractors need to comprehensively examine occupational medicine program practices to ensure an appropriate balance between different occupational medicine program functions, with particular emphasis on medical surveillance. DOE and contractor management should provide clear programmatic direction to implement an occupational health program that meets the expectations of DOE policy and guidance. Management should review the standards and requirements specific to contractor occupational medical programs.

DOE and contractor management should systematically assess occupational medicine program staffing and resources and, where appropriate, take action to ensure the ability to attract and retain qualified medical directors and staff. DOE and contractor management should also systematically examine methods to provide timely access to specialized medical support and information.

Work Smart Standards. Systems used to identify the appropriate and applicable set of standards for health and safety requirements should consider more than the minimum regulatory requirements for occupational medicine programs. The organizational interfaces and management system teaming elements, as defined in DOE requirements, should be identified as contractual requirements necessary to meet DOE expectations. Medical professionals should be included in the work groups that are assembled to identify, negotiate, and approve the set of requirements to be included in contracts between DOE and site contractors.

Integration and ISM. Efforts to better integrate occupational medicine programs with line programs, especially in the area of medical surveillance, should be included in safety and health performance objectives and assessment programs. Sites should use the ISM program planning and implementation process to emphasize the roles of the Health Division and line management in a comprehensive occupational health program. The integration and communication of hazard recognition, exposure assessment, and worker medical surveillance should be addressed under a comprehensive ISM program that appropriately emphasizes occupational medicine programs. The roles and responsibilities of the medical director and the interface

of the medical program with the site health and safety program need to be clearly defined and communicated. Effective use of information technology to communicate information to various organizations should be considered to facilitate sharing of information. Communication is also needed between sites to share effective approaches to implementation.

Performance Assessments. DOE and contractor site management should include occupational medicine program requirements in their performance assessments to determine the effectiveness of program planning and implementation as well as the program's linkages to the overall site safety and health program. Periodic assessments of work plans, project plans, and work activities with the potential for health effects should be reviewed to determine whether the medical program was aware of the hazards, and whether employees who could be exposed to hazardous materials or conditions are in appropriate medical surveillance programs.

Occupational Medicine Program Director

Medical Surveillance Programs. DOE and contractor site safety and health program descriptions and procedures should clearly describe the process for communicating and recording information that is needed for a comprehensive occupational health and medical surveillance program. Sites need to focus on incorporating occupational history and exposure information into the clinical medical record. They also need to review and clarify the roles and responsibilities of health examiners to focus on the importance of a comprehensive occupational history and targeted physical examinations.

Sites need to consider the use of various tools, such as hazard/risk mapping and job task hazard analyses, to ensure that occupational medicine program personnel have access to the information necessary for effective medical diagnosis and surveillance.

Medical Department Feedback and Improvement Programs. Contractor medical programs need to develop quality management and quality improvement programs that focus specifically on the requirements for maintaining a comprehensive contractor occupational medicine program. Occupational medicine programs should ensure that their quality management activities include a professional peer review process and medical provider evaluations that review clinical practices and provide procedures for correcting deficiencies.

Medical Director Roles and Responsibilities. The roles and responsibilities of the medical director should be defined to reflect the requirements of the DOE contractor occupational medicine program. The intent of DOE requirements is that the medical director establish the contractor occupational medicine program, including planning and implementation, supervision of and direction to the professional staff, and integration of the medical program with other stakeholders (e.g., line management, workers, and the community). Through a formal quality management program, the medical director should be held accountable for the quality of the medical program and the performance of the staff. Effective processes for correcting identified deficiencies should be established and formalized. Site management should have a process for formally reviewing and evaluating the medical director's performance in planning, implementing, and assessing the medical program. Site management should provide regular direction and feedback to the medical director. The medical director should communicate and coordinate identified deficiencies in the medical program to management and work with management to resolve those deficiencies.

Accreditation. DOE sites should consider and evaluate the benefits of seeking accreditation of the medical programs from an independent agency such as AAAHC. Such accreditation can enhance public and worker confidence in the program.

Appendix A

Office of Oversight Review Team Assignments

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